STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER PLANNING GRANT

ENGINEERING REPORT OUTLINE AND CHECKLIST

General Information

Name of Drinking Water System	
Drinking Water System Number	Date
Name of Project	

INTRODUCTION

✓	Does the introduction include the following:
	A discussion of the purpose and need of the project and a brief description of the plan of study.
	A discussion of the report organization (table of contents, figures, and tables can be included).

EXISTING CONDITIONS

✓	Does the report adequately describe existing conditions for the proposed project area?
	Are the boundaries of the planning areas identified?
	Are the existing environmental conditions in the planning area described? Include the following topics
	• Physiography, Topography, Geology, and Soils
	• Surface and Ground Water Hydrology
	• Fauna, Flora, and Natural Communities
	• Housing, Industrial, and Commercial Development
	• Cultural Resources (including tribal consultation)
	• Utility Use
	• Floodplains/Wetlands
	• Wild/Scenic Rivers
	• Existing Drinking Water Systems in Proposed Project Area
	• Public Health Considerations

	• Prime Agricultural Land Protection (Include maps)
	• Proximity to Sole Source Aquifer
	• Land Use and Development
	• Include maps, site plans, schematics and tables, and letters from consulted agencies as needed.
	• Environmental Justice
	Are existing sources, distribution system, and treatment facilities described? Topics that should be discussed in the section include:
	• The water source, location, pumping facilities and appurtenances. Include a well log if available.
	• The storage and distribution system, including operation and maintenance and maps.
	• The treatment facilities including the condition of the facilities and operation and maintenance.
	• The sewer system, its conditions, and operation and maintenance records. Include a map of the sewer system to help in the design of the drinking water system.
	• Cross connection control program
	• Copy of last sanitary survey
	• The drinking water quality including laboratory analysis for bacteria, chemicals, radiation, especially as compared to URTHs and MCLs.
	• Computerized hydraulic analysis to support water pressure data and fire protection capabilities.
	• Any violations of the Safe Drinking Water Act and the Idaho *Rules for Public Drinking Water Systems* including persistent customer complaints (i.e., taste, color, odor, etc.).
	• User charges and operation and maintenance budget.
	• Pressure zone problems, including existing population and households affected.
	• List and status of defects or deficiencies.
	• Other appropriate information.

FUTURE CONDITIONS

✓	The report should discuss the following topics relating to future conditions. Maps, site plans, figures, and tables can be used to complete this section.
	Future growth (20-year population projection).
	Forecast of demand (20-year period), including residential, commercial, industrial and fire flows (need letter from State Fire Marshall). Include data on average and peak use and expected reduction after metering and appropriate rate structure.
	Drinking water facilities needed for a 20 year period (note: 40 year period for distribution piping system).

	Future conditions without the proposed project (s).
	Land use plans for the area served by existing and future drinking water facilities.
	Computerized hydraulic analysis to model flow demands and pressure requirements.

DEVELOPMENT AND INITIAL SCREENING OF ALTERNATIVES

✓	Topics related to development and screening of alternatives that should be included in the engineering report include:
	Description of problems/deficiencies with existing water system to be corrected by the project.
	Development of alternatives:
	• Discussion of standard alternatives to upgrade or construct new facilities.
	• Discussion of the "No Action" alternative.
	• Discussion of optimum operation of existing facilities.
	• Discussion of regionalization.
	Description of how isolated areas in and around the community will be served. Will new wells, reservoirs, and distribution lines be needed to serve these people?
	Describe how new sources can be developed: wells or surface water.
	Discuss treatment requirements for new or upgraded facilities.
	Storage requirements.
	Pumping requirements.
	Pressure maintenance.
	Separate irrigation facilities.
	Staged distribution.
	Public input.
	Other.

FINAL SCREENING OF PRINCIPAL ALTERNATIVES AND PLAN ADOPTION

✓	Final screening of alternatives and plan adoption should include the following areas of evaluation:
	Evaluation of costs:
	• Present worth analysis
	• Capital costs and financing plan
	• Operation and maintenance costs
	• Salvage value
	• Reliability of alternatives
	• Implementability
	• Cost escalation factors for energy use
	• Comparison of costs of alternatives
	Final Public Input

SELECTED PLAN DESCRIPTION AND IMPLEMENTATION ARRANGEMENTS

✓	This section should include activities that normally follow selection of the best alternative. As a minimum this section should include:
	Justification and description of selected plan.
	Preliminary design of selected plan (include maps and site plans). Include computer model of flow and pressure.
	Cost estimates for the selected plan including monthly charges. What will be the added cost to the customer?
	Environmental impacts of the selected plan. The evaluation of environmental impacts of most drinking water projects will be minimal and can be covered under a Categorical Exclusion. However, in those cases where more substantive environmental issues are identified, a more thorough review will be necessary. In these cases an Environmental Information Document (EID) must be prepared.
	Any of the following elements for implementation that are applicable will be included:
	• Intermunicipal service agreements
	• Financing arrangements
	• Operation and maintenance requirements
	• Project Schedule
	• Certification of operator(s)

APPENDICES

✓	Any of the following items that are applicable will be appended to the engineering report.
	Relevant engineering data.
	User charge ordinance and latest O & M budget.
	Environmental information document and decision notice (FNSI, CE)
	Additional maps, charts, figures, and tables as needed.
	Mailing list and correspondence relevant to the engineering report and environmental document (such as letters and documented contacts from agencies regarding impacts on fauna and flora, wetlands, floodplains).
	Computerized hydraulic analysis of distribution (current and proposed).
	Public participation information.
	Documents consulted.
	Water quality test results.
	DEQ sanitary survey.